

N65928.AR.003049
NTC ORLANDO
5090.3a

LETTER REGARDING FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
REVIEW AND COMMENTS ON DRAFT FEASIBILITY STUDY ADDENDUM FOR OPERABLE
UNIT (OU) 4 NTC ORLANDO FL

6/7/2012

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

June 7, 2012

BRAC PMO SE
Attn: Mr. Art Sanford
4130 Faber Place Drive
Suite 202
North Charleston, SC 29405

RE: Draft Feasibility Study Addendum for Operable Unit 4, Naval Training Center
Orlando, Florida

Dear Mr. Sanford:

I have reviewed the Draft Feasibility Study Addendum for Operable Unit 4, Naval Training Center Orlando, dated December 2011 (received December 22, 2011), prepared and submitted by Tetra Tech NUS, Inc. I have the following comments on the report:

- (1) On page 1-1, third bulleted paragraph, last sentence, please change the sentence to more accurately read "This zone of groundwater contamination had not been identified in the previous Remedial Investigation or evaluated in the previous Feasibility Study."
- (2) On page 1-12, sixth paragraph, first sentence, please add the word "contaminated" between the words "with" and "groundwater".
- (3) On page 1-13, third paragraph, first sentence, please change "... Hawthorn WBZ in low ..." to "... Hawthorn WBZ is low ...".
- (4) On page 3-1, first paragraph, third sentence, it describes the enhanced bioremediation option as described in the original Feasibility Study Report. However, it says that this option included injecting and amendment to stimulate anaerobic biological activity with the possibility of adding air or methane to stimulate aerobic aquifer conditions in the downgradient areas of the CVOC plumes. This sentence and the description of the enhanced bioremediation need to be revised. The point of injecting Hydrogen Release Compound or EOS is to convert an aerobic environment within an aquifer to an anaerobic environment and/or to provide an abundant source of nutrients to microorganisms living within the aquifer. Once the aquifer environment has been converted to an

anaerobic reducing environment and adequate nutrients are available to stimulate the growth of natural anaerobic microorganisms, those microbes can degrade chlorinated volatile organic compounds by using them as electron acceptors involving the sequential replacement of chlorine atoms on the alkene molecules by hydrogen atoms. However, the idea of stimulating an aerobic aquifer condition downgradient of the source areas is based on the reaction kinetics favoring bioremediation of cis-1,2-dichloroethene (DCE) and vinyl chloride (VC) under aerobic conditions rather than anaerobic conditions. Also, the aerobic biodegradation of cis-1,2-DCE by-passes the creation of vinyl chloride, a compound that is more mobile and more carcinogenic than PCE or TCE. Lastly, the injection of methane into the aquifer would not stimulate aerobic aquifer conditions.

- (5) On page 3-1, third paragraph, third sentence, please replace "overcome all oxidation-reduction reactions" with "induce a reducing, anoxic environment".
- (6) On page 4-9, third paragraph, first sentence, please change the word "management" to "maintenance".
- (7) In Subsections 4.1.1.7 and 4.2.1.7, the cost estimates for the No Action alternatives for the surficial aquifer and the Hawthorn water bearing zone should be zero dollars. I believe that the cost to conduct 5-year reviews is being added to the remediation costs for the No Action alternatives. The 5-year review is a CERCLA statutory requirement and should not be confused with part of a remedy.
- (8) Please identify that the active or passive remediation options such as the injecting of a substance into groundwater to enhance bioremediation or the monitoring of natural attenuation do not provide significant risk reduction. Risk reduction is attained by eliminating exposure to contaminated groundwater. Rather, the active and passive remediation options provide significant contaminant mass reduction, control contaminant transport and provide a mechanism to ultimately achieve cleanup standards.

If you have any concerns regarding this letter, please contact me at (850) 245-8997.

Sincerely,


David P. Grabka, P.G.
Remedial Project Manager
Federal Programs Section
Bureau of Waste Cleanup

Art Sanford
OU 4 Draft FS Addendum
Page 3 of 3
June 7, 2012

CC: Teresa Grayson, Tetra Tech, Oak Ridge, TN

KAW 